

Sept 1869

A Great Industry on West Ridings.

The stranger who enters a Yorkshire 'clothing town' will easily discover the sort of work that most of the inhabitants are engaged upon. He sees many wagons in the streets heaped high with great packs rich in wool or girls' wool. On all sides you see very tall chimneys sending out black clouds of smoke, every chimney belongs to the long building with a flat front & many windows; most likely the building has three sides with a court, or yard, in the middle. Let him watch early to gain sight of the building at mid-day, & he will see great crowds of people pouring out, hundreds, in some cases, thousands, men & women, boys & girls. They are not like the smartly dressed people who pour out of church & sit upon a bank. The men always wear long blue pin-striped, or grey, big white aprons that cover entirely their dresses. Never a bonnet is to be seen in the crowd; the women have hats & bonnets at home on Sundays as smart as anybody's; but, to-day, they all wear big shawls pinned under the chin, hanging below the waist. There are a great many poor women poor men in the noisy throng who are streaming off to all the little street near the mill. Two or three drop into every cottage, have all day a hasty dinner, & then back again to work at the mill. For these are the 'mill-hands'. What business it is to look after the great machines used in the combing, carding, drawing, rolling, spinning, weaving, from everybody knows that wool grows on the sheep's back & that on account of warm stiff gales goats are made for wool; Yorkshire children are born

I know that a proper spin wool because it has
various stuffs in the great business of their company.
But how does it happen that wool is used for this
purpose? It might easily occur to any person
to wear the fleece as it comes off the sheep's back, to
keep him warm, but to spin the short fibres of the
wool into long threads, & to weave them into soft
clothes, is quite another matter.

Wool is a sort of hair, yet hair could never be
manufactured into close & soft cloth: the difference
between wool hair is, that each little fiber grows
curls up, not with a large loose curl such as we
often see in hair, but with a very tiny curl or wave.
Also, each curly fiber has jagged edges, being
covered all over with scales, covering small that it
is impossible to see them with the naked eye, or to
feel them, but yet large enough to catch in one
another. It naturally curl of the wool fibers causes
now to keep the twist they get in to spinning, held
by their jagged edges, may hold fast to one another.
Thus, in what is called the ~~ways~~ of broad cloth you
cannot see the threads crossing each other, all that
is seen is a soft woolly surface; the way to feel
that close surface is to touch it compared to cloth
in such a way that every little fiber becomes
hooked by its jagged edges to other fibers. Thus,
think how short each little wool fiber is, when
an infinite number of joins are made, so in
short length of year: how is it that this joining
so strong adheres and does not break at the joints?
just because the commissive fibers, that form
it do not ~~adhere~~ ^{adhere} at the joints? look together
by means of their little hooks so that they are
quite easily pulled apart.

For think, perhaps, that the wool off the sheep's back
is pretty much the same all the world over.

but that is not the case by any means: some are
as very short, fine, early, covered with tiny scales.
Other sorts are long, bright, tan & white because they
have only a few of these little scales or hooks,
and the business of the manufacturer is often
out that works as well for the stuffs he
makes.

There was a time when "all the world very kept
warm by English wool" - so says an old writer;
but, now, a deep, wool is brought from
many countries to spun & woven in our
Yorkshire mills. One sort of wool does best
for blankets, another for broad cloths, another
for fine merinos, a fourth for alpacas &c
or: so the broad ships sail over the world,
to Australia & America, New Zealand,
^{Asia, Egypt, Spain}
with ports of Germany & ^{Spain} some into
the docks of Hull & Liverpool with their cargo
of wool, sacks; and many a curious tale of
far away lands will be told with wool, sacks &c.
~~crosswater~~ if they could but speak!

The merchants send their buyers to the
sea ports, there they look over the ship's cargo
specie the wool, test it, ^{in various ways} & price it, if it suits
them well, they buy it to sell to the manufacturer;
then it is carded off to the mills, and still
as presently not becomes fit. In the meantime
when you see ^{by name} wool as big as half-a-ton
beds being hoisted to the top storey of a high
house, - you had better keep out of the way.

Now wool comes from Australia than from
any other part of the world excepting England itself.
Beautiful wool itself is, early, fine & silky
fit ~~wools~~ ^{are} turned into the very softest
yarns & stuffs. The German wool is even finer

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Now that of Australia, was imported when
made into ~~very fine soft Spanish~~
~~How Soft & Fine Wool~~
One upon a time a young Yorkshireman
who had no much money to spare sent his boy
to Liverpool to buy wool. From at that time
there came in the yard of the Liverpool merchant
many bales of "queer looking stuff" which no one
would buy. People soon learned it was
left over. But it was, & the merchant did not
know what to do with the "queer stuff" which
had been sent him from South America.
By a happy chance, one young Yorkshirereman
turned into this merchant's yard. He pulled
out a handful from the open corner of bale,
"Felt at it, smelt at it, did everything but
taste it," & at last carried away a sample in
his pocket: very soon he came back to that lucky
Liverpool merchant, & bought up every bale of the
unusual stuff.

~~Very soon~~ people heard of a new material for
dresses, called alpaca, a shiny, silky wool
stuff, most pleasant for summer wear. This
was what Mr. Lister Salt had made of the odd-looking
dirty wool he had picked up in that Liverpool
yard. It was the soft, fine ^{silky from no black,} strong ^{strong} wool of the
Alpaca a beautiful creature whose native home is in
the high mountains of South America.
Mr. Salt (who afterward became Sir Lister Salt), made
a great fortune by his discovery. He wished his
work people to get the benefit by his wealth.
He made up his mind to move them out of the
close air of the crowded town to a lonely spot in
the Aire valley. So here he built a very fine
house.

factory, a town & many streets of good houses,
his work-people, with schools, & a chapel & library.
Schools, public baths and wash-houses, a park
& an Institute, everything he could think
of for the comfort & pleasure of his people.

In 1853, all suddenly, and on his birthday,
birthday Mr. Salt led his people out ~~from~~
Gradford to their new home with colours flying
bands playing: ~~the~~ ^{and} ~~the~~ ^{with} ~~the~~ ^{the} ~~the~~ ^{the} ~~the~~
& requiring no mill people took possession of
the bright little town of Saltire. A bright fresh
little town it is still, even the great factory is
not yet darkened by smoke; the two monster
engines bright & beautiful as a drawing room
clock, are kept in glass cases for the delight of
the passers by; that is to say, the whole of each
engine might even bring a half sheet of plate
glass.

Many kinds of stuff besides alpaca are made
in this great factory; every kind of wool used
in the woollen manufacture may be seen in
the ^{women's} ~~women's~~ warehouses. Here also, old looking
bales from India, packed in India waiting,
neat little square balls of alpaca from Peru,
workman-like bales from Germany; clumsy
packages of mohair ^{fine} from the mohair flocks of
Syria; much ^{indian} wool from South Africa,
endless rolls of Botany wool from Australia,
wools from Austria, wools from Egypt.

But we must not linger any longer over these
endless heaps of foreign wools which lie about in heaps,
ready for the sorters; we have yet to tell all that is done to
the wool before it passes into the hands of the dressmakers, or
tailors.

Inside a Factory

Bremen

We get into manufacturer who has a large mill to be good enough to let us go over it so soon as we mind him a hoist lifts us up to the top story of the mill, where the wool sorting is carried on, because the sorter wants a strong light from the roof so that he may see his wool well. We enter a large, bright airy room where the sorter stands at his light & easy work. He stands at a board placed breast high before a window upon which a fleece is spread & with wonderful quickness feels through it, he sorts the hairs into sometimes a dozen different qualities, coarse, fine, finer, finest & soon, the wool. sorter gets good wages because it is not everyone who can feel or see any difference between the fibres of one handful of wool & another.

The next thing to be done is simple enough. The wool is thrown into a large trough filled with hot water & soap. Here it is worked about with iron rollers until it is quite clean. Then, a "porcupine" roller set with hooked teeth, draws it out of the water. It is dried by being spread over a wire platform beneath with great fans more to & fro making a draught of hot air.

Then, a plancher, set with crooked teeth, pulls out all the knots from the tangled apron full with which it is fed; other tools & three preparing machines make the broad apron full into a long roll no bigger than a child's wrist which is called a Sliver.
Next, the Sliver goes into the combing machine, a wonderful machine that can do a dozen different things

with as much care as a man applies to his
beaut -
smooth neatness.

Consider how difficult it is to comb a ~~lot~~
~~soft~~ ~~wool~~ you must remember that it is
unless the combing goes over hair in this
that the hair is fastened on the head & will not
you may give a good hard tug to the comb
without bringing it out. Now, the wool is loose
at both ends; so the combing machine must
hold fast one end of the ~~soft~~ ~~wool~~ & the same
time, comb out the loose ends. Then the combed
end must be held, & the tangled end combed off.
When the ~~soft~~ ~~wool~~ is combed at both ends, it
must be laid ^{so as to cover up the air with} ~~onto the blower of combed wool~~
the comb must be cleaned with a brush & the
~~staples~~ ~~or~~ ~~refuse~~ must be emptied into a
can, & the new ~~soft~~ ~~wool~~ straightened wool must be
sized ready for combing. All this is done
now, as performed, by the ~~two~~ quick as thought,
by a single machine. ~~This is worked by the turning~~
~~feet~~, & as fast you see a lovely milk-white
roll of ^{combed} wool pouring out onto the can which is
waiting to receive it.
What is the use of all this combing & brushing -
from these are little brushes as well as combs
attached to the machine? Just the same as
that it is to comb & brush your hair. When it goes
into the combing machine, the wool is tangled
& matted, not quite clean; when it comes out,
all the little fibres of the wool lie straight & smooth
side by side, & quite free from dust. Before this wonderful
beautiful machine was invented all the wool combing was
done by hand, or a very tedious & dirty kind of work
was that of the wool-combers. Now, nothing can be cleaner, neater, &
neater than the work of the machine.

1818.06.34

But "combing" is not the only process by which the tiny, curling fibres of wool may be made to lie straight and by sides. Carding is thought to answer better than combing for the finer kinds of wool, the fibres of which are very short & curly. However, prints the carding, room to see how this is managed, a huge room, with, perhaps, a hundred great carding machines in it, standing in pairs, end to end, with a passage between them.

You must, perhaps, think a card is a card upon which the wool is wound. Nothing of the kind; it is an iron roller, set all over with steel wires, shorter & closer together than the hairs of a clothes brush. There is a large card, & a number of smaller cards in a carding machine. The wool enters into the greedy maw of the machine, & is drawn through the pricks of one card after another, until, after the last carding, every fibre lies straight & even, like the hairs of a goat's head.

A soft-clad of wool, that leaves the machine after the carding, is pressed together & rolled & drawn by one machine after another, until it becomes a sort of soft cord, about the thickness of a candle-wick. It is then wound upon spindles, & is ready for the spinning frame. Fully a dozen frames does the sliver of wool go through before it is ready for the spinning frame & as each frame ^{preserves} several small slivers into one, & draws out that as until it is finer than any of the slivers of which it is formed, the wool is doubled many times while passing through these frames. Indeed, it is said, that about a quarter of a million doubling up

1894-34

take place before the wool is spun; and every doubling helps to stretch & arrange the short fibers ~~so as to~~ scatter them out. But it is ~~so~~ ^{not} ~~hardly~~ possible ~~as~~ ^{not} two ends should fall together. This is very important, because if half a dozen ends come together there would be a weak place where the yarn would easily break ~~spinning room.~~

And now, the carding or combing over, even little carding fibre lies straight & even & is spun ready for use. The next thing is ~~a~~ ^{to} make a great arrangement of the spindle threads from into a thread or yarn such as you may see in the ravelings of pieces of stuff. The ravelings from a blanket are thick & coarse. Those from a piece of merino are very fine; so you see, the yarn must be spun of different ^{fibres} ~~in coarse~~ according to what is to be made fit.

Less than a hundred years ago the plan in the West Riding was for the worsted manufacturer to carry his wool round to the villages scattered in the dale. Some would be taken in ~~at~~ every cottage, & the mother & girls would spin it into threads with a spinning wheel, in working truth, the woman would keep the fibers straight with her hand, while the turning of the wheel would cause them to twist into a single thread. Each woman could spin only one thread at a time.

If you take now many threads cross each other in a piece of plaided, you will see this must have been rather slow work. A poor weaver, called Hargreaves thought to ~~be~~ ^{not} invented a machine, called a spinning jenny which could spin eight threads at once, and, later, Mr. Crompton of Bolton in,

1890 Oct 14

(in Lancashire)
invented the mule-jenny. a wonderful machine
which will keep ^{as numerous numbers of} spindles at
work.

How these machines do their work is too deep
a matter for us to explain. The great frames
stand in pairs all through the length of every
large room. The machines draw the
spinning, better, perhaps, than if they had
sense. The work of the women & girls who
watch them is just to go from spindle
to spindle & to join any one of the hundred
of threads which happens to break, & this they
do with a wonderfully quick twist. Every
girl works two frames, each frame containing
~~about 1200~~ ^{many} spindles. The work is easy enough.
The spinners walk from end to end of their
frames as if they were quite at their ease, &
they must be on the watch every instant for
broken threads. The broken thread gets into
the noise in this, as in all the other great
rooms of the mill, is quite deafening; you
cannot hear a word that is said to you, unless
you go outside. But no doubt
the operatives get used to it; & in the best mills
the noise is the most-unpleasant thing attending
the work.

A good deal of the yarn spun in the mills
is exported, & delightful it is to an orderly
mind to watch its operation of packing. The yarn
intended for this purpose is spun upon spindles
shaped paper cones which are taken off the frames as
they stand, & packed in large crates, now upon one
end balanced endo. as neatly & closely as the cells
of a honeycomb; & then the whole is pressed together.